F1-256

I. EXECUTIVE SUMMARY

A. PROJECT TITLE/APPLICANT NAME

Lower Butte Creek Acquisition and Restoration Program/The Center for Natural Lands Management (Center).

B. PROJECT DESCRIPTION/PRIMARY BIOLOGICAL AND ECOLOGICAL OBJECTIVES

The Center is seeking a block grant from the CALFED Category III program for a proposed lower Butte Creek acquisition and restoration program to restore riparian landscape within a 300 foot wide block of land on each side of the 25 mile stretch of Butte Creek from Highway 99 south to the Sacramento River. Less than 3% of the historic riparian vegetation exists along this portion of Butte Creek, and the spring run of Chinook salmon have declined precipitously. The proposed program consists of a lands inventory including identification of key parcels for acquisition and restoration to meet ecosystem restoration objectives; a pilot restoration program as a basis for restoration strategy for future land purchases; and a coordination program between public and private stakeholders with interests in the watershed.

C. APPROACH/TASKS/SCHEDULES

The program approach consists of implementing the following tasks: inventorying lands along lower Butte Creek that will provide the greatest benefits to the functioning of the Butte Creek Ecological Unit; acquiring lands based upon that inventory; restoring those lands to riparian functioning; permanently protecting and maintaining those lands via land rights acquisition, long-term stewardship and community cooperation. Completion of the lands inventory is to occur within the first year. Acquisition according to the benefits inventory shall occur on an ongoing basis over the next two years with restoration occurring seasonally.

D. JUSTIFICATION FOR PROJECTS AND FUNDING BY CALFED

This land conservation program is consistent with the Butte Basin Ecological Zone objectives and targets as part of the Bay-Delta Ecosystem Restoration Plan program. The conservation project addresses the CALFED identified stressors on the biological and ecological quality of the Bay-Delta. Butte Creek is one of the most important streams remaining in California for the conservation of spring-run Chinook salmon with 1960's populations recorded at over 4,000 adults. This Butte Creek population was California's second largest spring run, Sacramento River being the first. Not only does this project contribute to the goals in nearly all major stressor groups, but it is the keystone to adjoining projects planned near the mouth of Butte Creek at Butte and Sacramento Sloughs and in upper Butte Creek through watershed plans and preservation. This project will connect these efforts assuring riparian and flood plain functions for the entire Butte Creek Ecological Unit.

E. BUDGET COSTS AND THIRD PARTY IMPACTS

The program budget is $6,661,537 of which 90% or $6,008,150 will be used to purchase 400 to 500 acres of land from willing sellers. The remainder of the funds ($6,653,387) will be used for restoration and permanent stewardship through an endowment, ensuring that lands acquired will be utilized for riparian purposes in perpetuity. No significant third party impacts are anticipated as a

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result of this project. Although the counties of Butte, Sutter and Colusa together potentially may lose tax revenues in the amount of $8,000 to $10,000 a year from removing properties from the tax roles, avoided flood damage costs and increased recreation and quality of life values would exceed this tax loss. Beneficial third party effects include farmers who risk losing streamside croplands to flooding, others with investments threatened by floods downstream, fisheries users, and recreationists who enjoy wildlife throughout the Central Valley and Delta.

F. *APPLICANT QUALIFICATIONS*

The Center is a 501(c)(3) non profit tax exempt organization founded in 1990 to protect biological resources through long-term stewardship of conservation lands. The Center currently manages approximately 41,000 acres of land throughout California from Arcata to San Diego. In January 1997, the Center entered into a Memorandum of Understanding with The Nature Conservancy to transition land management responsibilities at several Conservancy sites to the Center.

G. *MONITORING AND DATA EVALUATION*

The Center will utilize its ECOS monitoring program (see Center ECOS proposal submitted to CALFED July 28, 1997) to report to CALFED its acquisition progress, restoration implementation and management program for this Butte Creek project.

H. *LOCAL SUPPORT/COORDINATION WITH OTHER PROGRAMS/COMPATIBILITY WITH CALFED OBJECTIVES*

As a consultant to Butte County, the Center is in the process of developing a Butte County wetland mitigation bank. Local support and coordination with others includes such organizations as The Nature Conservancy, the Butte Creek Watershed Conservancy, the U.S. Fish and Wildlife Service as administrators of the Central Valley Project Improvement Act (CVPIA), the Wildlife Conservation Board, the counties of Colusa, Sutter and Butte, and the California Conservation Corps. Associated with the Butte County mitigation bank project, the Center will be restoring 47 acres of a 56 acre parcel (Keeney parcel) whose acquisition is being funded by the Central Valley Project Improvement Act (CVPIA), *Title 34*, Anadromous Fish Restoration Project. The Butte County Fish and Game Commission is also a partner in this project.

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Lower Butte Creek Acquisition and Restoration Program

Applicant:
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II. PROJECT DESCRIPTION

A. PROJECT DESCRIPTION AND APPROACH

The Center for Natural Lands Management (Center) proposed block grant is for the lower Butte Creek land acquisition and restoration project. Riparian and flood plain restoration will be accomplished through the acquisition of priority properties along lower Butte Creek, and restoration and permanent stewardship of these lands. Our proposal consists of a lands inventory including identification of key parcels for acquisition and restoration to meet ecosystem restoration objectives; a pilot restoration program as a basis for restoration strategy for future land purchases; and a coordination program between public and private stakeholders with interests in the watershed.

B. LOCATION AND GEOGRAPHIC BOUNDARIES

The proposed project is located in the Butte Basin of the Sacramento River watershed. The acquisition project will focus on parcels located within a 300 foot band of land on each side of the 25- mile stretch of Butte Creek in Butte, Sutter and Colusa Counties from the southern edge of the City of Chico's area of influence to the confluence with the Sacramento River. This alignment is the lower portion of the Butte Creek Ecological Unit.

C. EXPECTED BENEFITS

The program would provide continuity to existing and proposed improvement efforts both upstream on Butte Creek and downstream into Butte and Sacramento Slough, and complements several dam and fish screening projects in lower Butte Creek. Specifically, the purchase of streamside land and its ultimate restoration to riparian and seasonal flood plain will return a significant portion of lower Butte Creek to a more naturally functioning watercourse. Potential restoration exists for 2,000 acres of riparian habitat in this stretch of Butte Creek. Twenty-five percent of these lands would be targeted for acquisition. Restoration of the acquired lands would have significant biological and hydrological benefits: anadromous fish benefits through reduction of water temperatures from Shaded Riverine Aquatic (SRA) habitat; expansion of the available flood plain; and improved filtration of both sediments and chemical non-point source pollution. Implementation of restoration may reduce or screen diversions and increase channel complexity. Overall, the amount of habitat for aquatic and terrestrial habitat along the stream course would be significantly enhanced and managed by a permanent stewardship program.

Third party beneficiaries include: agricultural landowners who suffer the loss of crops and orchards from flooding; downstream property owners who risk the loss of valuable improvements; local residents from reduced risk to the loss of public infrastructure and threats to human life; water managers responsible for meeting drinking water quality for urban use; users of the fisheries; and participants of wildlife recreation activities.

Table 1 identifies the primary stressors identified by CALFED as appropriate for Category III funding that would be addressed by implementation of this project.

Table 1
Stressor Categories Addressed by Lower Butte Creek Acquisition and Restoration Program

Stressor Categories	Stressor Subcategories	Description of Stressors	Restoration Action
Alteration of flows and other effects of water management	Hydrograph alterations	Inadequate flow, stranding due to flow fluctuation	Reduction in numbers of diversions and amount of agricultural acreage on creek edge irrigated with creek water
Alteration of flows and other effects of water management	Entrainment	Unscreened diversions	Reduction in number of diversions and screening of others
Flood plain and marsh plain changes	Physical isolation of flood plain or marsh plain	Habitat fragmentation	Restore Shaded Riverine Aquatic (SRA) habitat
Flood plain and marsh plain changes	Physical isolation of flood plain	Habitat fragmentation	Restore seasonal flood plains
Flood plain and marsh plain changes	Physical isolation of flood plain or mash plain	Habitat fragmentation	Conserve flood plain through land acquisition or easements
Food plain and marsh plain changes	Elimination of fine sediment replenishment	Loss of f lood plain and marsh plain; fine sediment deposition	Maintain riparian edge and flood plains to collect silt and retard situation into waterway
Flood plain and marsh plain changes	Land use changes in the flood plain or marsh plain	Urbanization, agriculture, grazing	Convert streamside lands to riparian and floodplain functions
Food plain and marsh plain changes	Land use changes in the flood plain or marsh plain	Urbanization, agriculture, grazing	Fish compatible responses to flood damage
Flood plain and marsh plain changes	Land use changes in the flood plain or marsh plain	Urbanization, agriculture, grazing	Enhance areas for foraging and nesting habitat for migratory birds
Channel form changes	Prevention of channel meander	Channelization, loss of complexity	Create internal waterways where feasible
Channel form changes	Isolation of side channels	Loss of woody debris, loss of spawning habitat	Create internal waterways where feasible
Channel form changes	Channel aggradation due to fine sediments	Accelerated erosion	Create streamside filtration through restoration of riparian vegetation
Channel form changes	Loss of riparian zone	Loss of food supply, loss of SRA	Restore riparian vegetation
Water quality	Increased contaminants	Acute or chronic toxicity caused by agricultural runoff	Restore riparian vegetation to create SRA, and reduce diversion to maintain flows
Land use	Grazing and agricultural practices	Loss of riparian habitat, increased erosion, decreased water quality	Purchase instream and stream side holding and covert to riparian and floodplain use

D. BACKGROUND AND BIOLOGICAL/TECHNICAL JUSTIFICATION

CVPIA seeks to double and sustain the natural production of anadromous fish in Central Valley rivers and streams. The Anadromous Fish Restoration Plan (AFRP) identifies Butte Creek restoration actions. The goal of the CALFED Bay-Delta program for ecosystem quality is to improve and increase aquatic and terrestrial habitats and improve ecological functions to support sustainable populations of diverse and valuable plant and animal species. Loss of riparian habitat is noted as a significant contributing factor to the decline of anadromous fish populations. Restoration of ecological processes that are associated with streamflow, stream channels, watersheds, and flood plains is a major CALFED goal.

Butte Creek, a tributary to the Sacramento River, flows from its headwaters in the Lassen National Forest, through Sierra foothills to the Central Valley. Much of the stream in this Central Valley reach has levees with adjacent intensive agricultural development. Butte Creek is one of the most important streams remaining in California for the conservation of spring-run Chinook salmon with historic populations recorded at over 4,000 adults. This Butte Creek population was California's second largest spring run, Sacramento River being the first. These population numbers reflect the effects of hydromodification, loss of the stream's deep cool pools, shaded riverine habitat, issues of sediment transport, agricultural cultural effects and other physical, chemical and biological changes.

The purpose of the proposed land acquisition, restoration and perpetual management project is the improvement of SRA habitat for the benefit of anadromous fisheries through the purchase of land and the restoration of riparian habitat. Major portions of the targeted stream bank have been denuded of riparian vegetation or support only a thin riparian edge. Restoration with native species such as cottonwoods, alders, and willows will increase SRA habitat in the stream, essential to both spring and fall-run Chinook salmon and other anadromous fish. Valley oak riparian restoration on the upper terrace will create an additional riparian belt within the Butte Creek flood plain, providing habitat for wood ducks, northern harriers, American bitterns, and various neotropical migratory songbirds. The stream itself provides foraging habitat for osprey.

The proposed acquisition and restoration project will contribute to the ecological restoration needs of the river, water basin and Bay-Delta watershed including: 1) restoring nutrient cycling, vegetation succession, over bank flooding, and flood plain inundation; 2) increasing the amount of quality riverine edge habitat to allow spawning and rearing by sustainable populations of native fish species; 3) providing nesting and foraging habitat for neotropical migrant birds and other wildlife species; 4) working with available hydrologic and sediment regimes, in a manner consistent with flood control requirements, to more closely emulate natural stream channel configurations; and 5) restoring ecological processes and functions to maintain important habitats and contribute to the overall health of the ecological zone. These objectives match the Butte Basin Ecological Zone objectives and targets as part of the Bay-Delta Ecosystem Restoration Plan program.

Putting stream bank lands into conservation uses is also essential to recreating healthy downstream conditions. Land acquisition and restoration to riparian vegetation will largely eliminate direct soil-water contact and provide a filter to reduce levels of siltation, sedimentation, and chemicals.

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Restoration of stream bank and associated flood plain lands will also contribute to flood management and reduce the risk of flood hazards to agricultural and downstream development. At present many crops are grown adjacent to the waterway and even between the levees of Butte Creek. In the 1996-97 storm events, farmers experienced major losses from the flood waters. Several mature orchards within Butte Creek were completely destroyed.

Acquisition of fee title or conservation easements over these lands and their restoration may reduce diversions thus contributing to increased stream flows, reduced water fluctuations, and reduced losses of anadromous fish. This would be achieved by concurrently purchasing the water rights for creek diversions or ground water.

E. PROPOSED SCOPE OF WORK

The approach for the proposed acquisition, restoration and maintenance program consists of three elements: 1) acquisition from willing sellers based upon an inventory of parcels and their relative benefits to recovery of the resource; 2) a pilot restoration project to establish methodologies for restoring acquired lands; and 3) coordination with organizations and agencies to collaborate on the implementation of a comprehensive lower Butte Creek acquisition and restoration program. These elements or features are described below with their associated tasks.

a. Priority Land Acquisition: The Center will inventory the lands along the identified reach of lower Butte Creek to establish a program of acquisition and restoration. The accompanying map (**Map 1**) depicts the creek, vegetation and parcels in the designated 25 mile stretch of the river. The purpose of the inventory is to identify ecosystem stressors and existing and future SRA habitat, parcel and ownership boundaries, agricultural potential, runoff, flooding, and diversion impacts. Weighted values of characteristics will rank parcels according to their ability to meet CALFED program objectives. Weighting techniques will be based upon technical studies of hydrological and water quality conditions and consultation with resource agencies and organizations active in the Ecological Unit. Based on the above factors, a key parcels list will be used for land acquisition initiatives.

Task 1a

- **Develop** a landowner outreach program to educate landowners about the overall program, the primary land/biological surveys, benefits associated with becoming a willing seller (e.g., financial, ecological, flood prevention, etc.) and program consistency with ecosystem restoration.

  Product: Educational materials such as brochures, information sheets, financial planning options, and contact lists.

Task 2a

- **Inventory** of Lower Butte Creek lands based on the following criteria: land ownership; quality of existing habitat to suggest whether restoration or protection is most beneficial; identify "infill" parcels contiguous with healthy habitat; determination of extent of parcel restoration; restoration goals and targets; land uses; current values based upon existing

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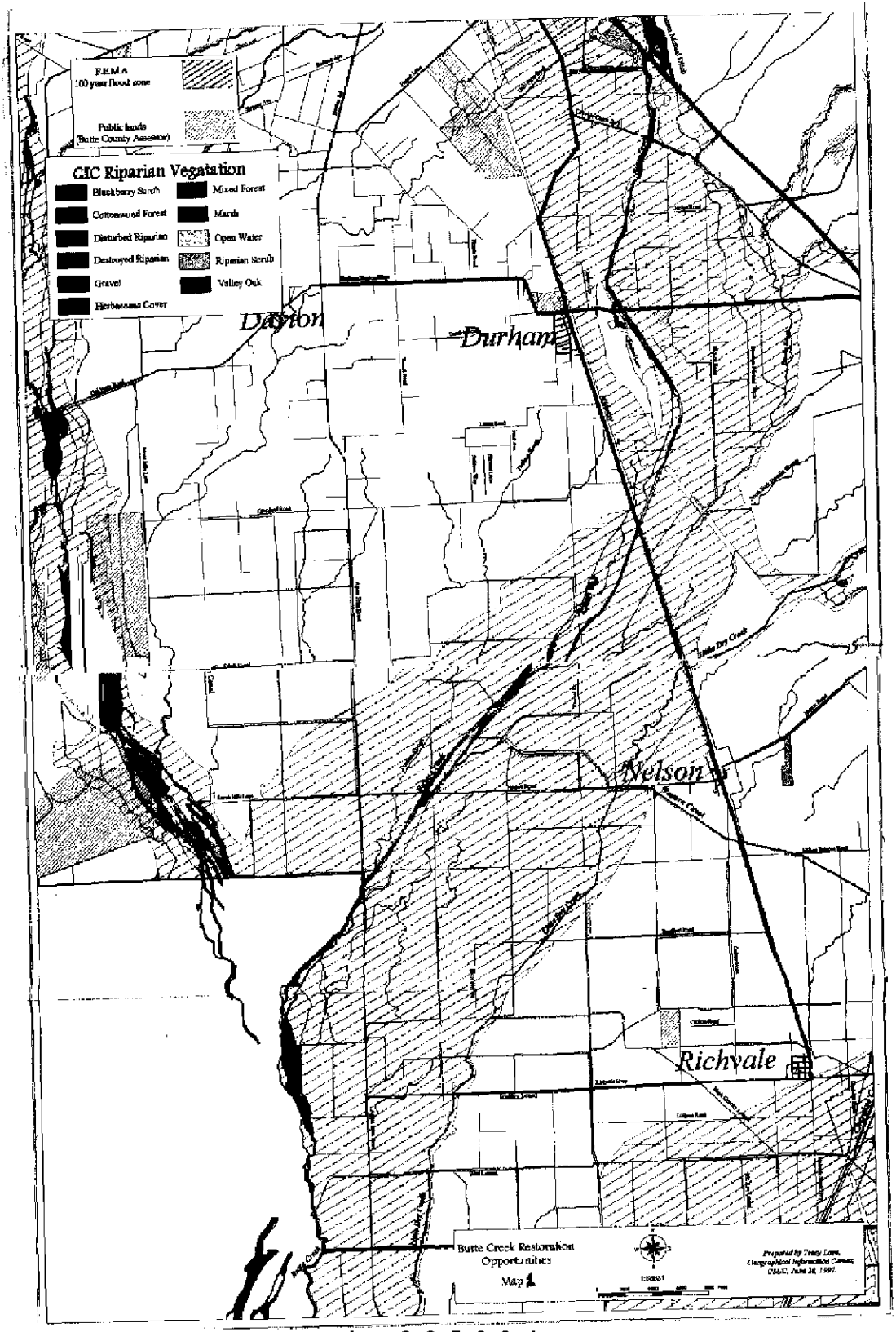

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appraisals and existing and potential economic uses; hydrological evaluation to determine historic fluvial geomorphology, and opportunities and constraints for reestablishing flood plain functions and removing diversion ditches; water quality evaluation based on chemical, biological and hydromodification effects and benefits; survey of surface and ground water rights.

Product: Preparation of GIS maps reporting these characteristics and attributes.

Task 3a

- **Prepare**acquisition report using a weighting system of characteristics to develop priorities. The guiding principle is that willing sellers will dictate the pool of parcels available and that choices between them will be made according to the priority system. Budgets and methodology will be developed based on results of the pilot restoration project. The Property Analysis Record (PAR), will be utilized to develop an analysis suitable to these properties (see Exhibit 1).

Product: Lower Butte Creek Priority Lands Acquisition Report

Task 4a

- **Implement** land acquisition based on the key parcels list and willing sellers. Continue Task 1a by educating landowners in the agricultural and real estate community of the availability of a willing buyer. Approach individual property owners of priority properties to determine their property interests and their financial goals. A continuum of purchase arrangements must be available to sellers ranging from straight sale to tax free trades and charitable donation trusts. As a non-profit and with our background in real estate, the Center is capable of offering sellers a full complement of sale agreements.

- The Center would be seeking at least 300 feet of land on each side of lower Butte Creek or lands within the levies. This may mean that certain parcels would require a **parcel split** needing County approval. Option agreements may be used to allow time for County approval, confirmation of water rights, easements, title reports, and toxic assessments. The Center will build on its more than two year's experience working with landowners in this area, resulting in the purchase of over 500 acres.

- Based upon our experience in this area, the **full cost of restoring and preserving riparian** values in perpetuity is estimated to range between $12,000 and $15,000 per acre, suggesting that $6,000,000 should secure approximately 400 to 500 acres or 20 to 25 percent of the 2,000 streamside acres of lower Butte Creek. **Table 2** shows the proposed pilot project restoration costs on the Keeney property, which provides an example of the full cost of acquisition, restoration, and permanent stewardship.

- The most appropriate entity to hold fee title or easement to the acquired lands would be identified by CALFED. Should the Center be responsible for long term management,

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Table 2

Pilot Restoration Project (Keeney) Budget

Center for Natural Lands Management

July 1997

	Unit	Quantity	Cost/ Unit	Total Cost
Acquisition Budget				
Land Cost	Acres	56	$5,357	$299,992
Closing Costs	Escrow/Title	1	$3,000	$3,000
Subtotal				$302,992
Restoration Budget				
Design	Contract	1	$8,000	$8,000
Clearing	Hours	36	$12	$432
Bank Prep.	Hours	1800	$12	$21,600
Cuttings	Hours	800	$12	$9,600
Seed Collection	Hours	1400	$12	$16,800
Planting	Hours	5500	$12	$66,000
Nursery Stock	Plants	4750	$1	$4,750
Weed Mats/Screens	Plants	9500	$2	$19,000
Supervision	Hours	270	$65	$17,550
Travel	Miles	0.29	$800	$232
Irrigation Set-uyp	Hours	680	$20	$13,600
Irrigation Parts	Heads	4700	$1	$4,700
Electricity	KWH	4000	$0	$600
Pump Maintenance	Hours	25	$30	$750
Contract Provision	Hours	25	$30	$750
Oversight	Hours	96	$30	$2,880
Administration @ 5%				$9,362
Contingency				$23,500
Subtotal				$220,106
Restoration Maintenance (Initial and Capital)				
Monitoring	Hours	100	$30	$3,000
Project Oversight	Hours	80	$30	$2,400
Gates	Gates	1	$600	$600
Fencing	Feet	1000	$3	$3,000
Signs	Signs	36	$7	$252
Watering	Hours	160	$15	$2,400
Invasive Control	Hours	700	$15	$10,500
Irrigation Maintenance	Hours	120	$25	$3,000
Electricity	KWH	4000	$0	$600
Travel	Miles	1440	$0	$418
Contract Maintenance	Hours	8	$30	$240
Accounting	Hours	3	$30	$90
Exemption Filing	Hours	1	$30	$30
Administration				$5,837
Subtotal				$32,366
Permanent Stewardship				
Endowment				$180,000
Total				**$735,464**
Cost per acre for 56 acre parcel				**$13,133**
Cost per acre for 47 acre restoration				**$15,648**

endowments would be placed in trust with the Union Bank of California, acting as the Center's fiduciary and investment representative, in a subaccount dedicated to the property but pooled with endowments from other properties for investment purposes.

Product: Identify acquisition costs for specific properties. Determine long-term land owner/conservation easement holders. Purchase land.

b. Restoration and Maintenance: The purpose of this task is to test restoration techniques and costs and to prepare a program for instituting restoration and permanent stewardship on properties purchased through this project based on the results of the Keeney pilot restoration project.

Task 1b

- Conduct **pilot restoration** of Keeney property (**Map 2**) using a locally experienced riparian restoration specialist with the Center providing oversight and monitoring. The Center will restore 47 acres of the 56-acre parcel to be acquired by CVPIA and Butte County Fish and Game Commission funds. Thirty-two of the 47 acres are a conservation project, and the remaining 15 acres will be a mitigation bank. The project includes acquisition, restoration, restoration maintenance, monitoring and permanent stewardship through an endowment. Mitigation bank purchasers shall pay the full per acre share of the cost of the project for the 15 acres if the mitigation bank.

- The Keeney property will serve as a pilot project on which to base further restoration and restoration maintenance plans. We will establish the loss of vegetation and rates of vegetation growth and fauna reestablishment. Management needs will be established. Restoration methods for future parcels will be refined and costs determined.

  The pilot property extends about one mile from the Sacramento Pacific Railroad to the Southern Pacific Railroad between the levees of Butte Creek. Approximately 47 acres will be restored to riparian vegetation; the remainder is creek bottom. Proposed restoration plans include irrigating approximately 9,500 plants up to two years: half of the plants will be from cuttings of local riparian species and seed gathering, with the other half purchased from a native plant nursery. Weed mats and screens will be used to reduce the amount of exotic plant generation. The Center will provide a continuum of responsibility bridging the planting process and planting maintenance.

Task 2b

- **Document** the restoration process and results. This task includes detailing the characteristics of the pilot location, general methodology, specific techniques, and labor and costs. The second step is to monitor the results over a two year period.

Task 3b

- **Prepare** restoration strategy for future property acquisitions. Based on the pilot project in Task b, the Center will develop a generic checklist and methodology for restoration.

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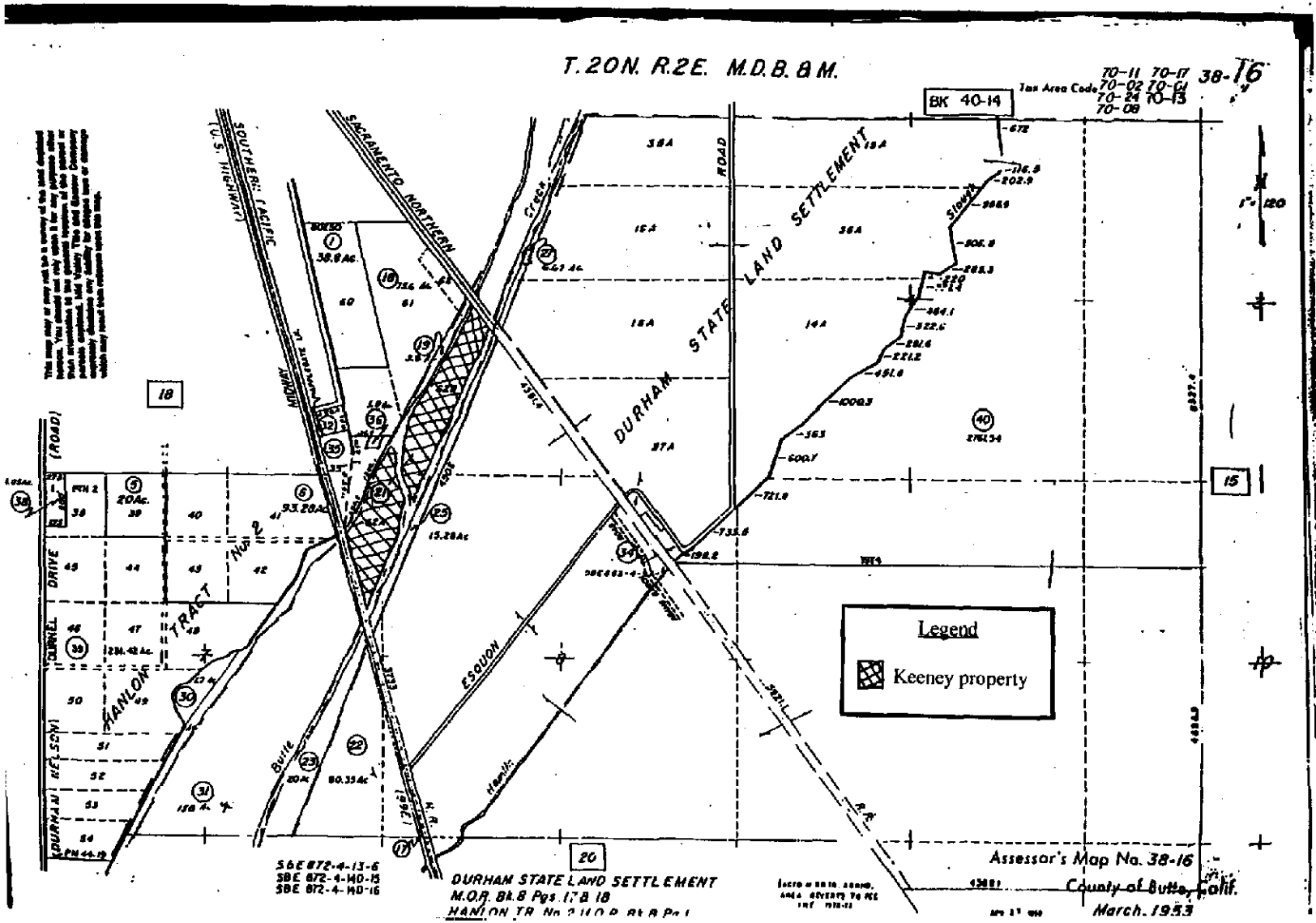
Map 2
Pilot Project (Keeney Property) Location Map



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restoration management and stewardship to guide work for future acquisitions.

c. Coordination: The Butte Creek land conservation program will be best served by developing a partnership with major parties involved in the watershed. Coordination has been initiated with The Nature Conservancy and the Butte Creek Watershed Conservancy, the California Department of Fish and Game, and the US Fish and Wildlife Service. Other opportunities for coordination will be identified with project participants in the CALFED and CVPIA programs.

Task 1c

- Continue **collaboration and coordination** with TNC and Butte Creek Watershed Conservancy in conjunction with the California Department of Fish and Game, U.S. Fish and Wildlife Service and other participants of programs on this and similar watersheds on their concerns and priorities for their respective projects up and down stream. Develop a Memorandum of Understanding (MOU) outlining overlapping and cooperative responsibilities and tasks, providing guidelines for the inventory and acquisition strategy.

Task 2c

- Identify other opportunities for collaboration and coordination to achieve consensus for acquisition and restoration program.

F. MONITORING AND DATA EVALUATION

The Center will utilize its ECOS monitoring program (see Center ECOS proposal submitted to CALFED July 28, 1997) to report to CALFED its acquisition progress, restoration implementation and management program for this Butte Creek project. The Center incorporates long-term monitoring in its PAR analysis of each property. In this case, monitoring of riparian flood plain function including succession of vegetation, SRA habitat and other water quality measurements be will performed.

G. IMPLEMENTABILITY

The Center's work in this area suggests that landowners are receptive to mechanisms that improve the fishery and protect their fields and finances but do not compromise their other agricultural activities. Similarly, the acquisition of water rights is probable to the extent land is taken out of production. The width of the riparian strip necessary to achieve ecosystem objectives is integrated with remaining agricultural uses. This knowledge will improve our ability to negotiate such purchases.

The addition of riparian vegetation and the ability to inundate conservation lands during flood events are both important factors for the reclamation districts and public works. All necessary environmental review and permits or agreements will be met.

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IV. COSTS AND SCHEDULE TO IMPLEMENT

A. BUDGET

The cost of the Butte Creek Land Conservation Program is $6,661,537 (**Table 3**) of which 90% is for the acquisition of lands and their subsequent restoration and permanent stewardship. The figure of $6,008,150 for acquisition, restoration and permanent stewardship is based upon the Center's two year experience and involvement in land acquisition and restoration in Butte County and on Butte Creek in particular. **Table 4** summarizes the pilot project cost using low and high range values. The central range for most properties is between $12,000 to $15,000.

Table 4
Pilot Project (Keeney Property) Projected Restoration and Long-Term Stewardship Costs

Range of Acquisition Costs Per Acre	low range ($)	high range ($)
Land Costs	$3,500	$6,000
Restoration	$3,500	$4,500
Restoration Maintenance and Initial and Capital Costs	$700	$1,000
Perpetual Stewardship through Endowment	$4,000	$4,500
TOTAL	$11,700	$15,500

The next largest component of this program's costs are contracts to sub-contractors including water quality, hydrology, appraisal services, and GIS production. The values have been broadly confirmed by contractors in these fields including the State University at Chico Foundation-GIS Center. Each contract will be subject to competitive bid, with the possible exception of GIS.

The Center's labor rate is set at $43 an hour plus taxes, benefits, and insurance of approximately 30% of salary. Administrative costs are calculated at 22 percent of total costs for CNLM labor expenses, material and miscellaneous costs except acquisition. Major service contracts incur a 5% administrative rate. The $6,000,000 for acquisition incurs a 1% rate to offset legal and accounting fees required for these transactions.

B. SCHEDULE MILESTONES

Figure 1 summarizes the schedule milestones identified below.

- Milestone 1: **Coordinator MOU**. The MOU is to be completed in the fourth month of the project to coordinate activities and demonstrate concurrence in the process of inventorying and acquiring properties.
- Milestone 2: Development of the **landowner outreach program** and completion of the **contractor reports**. In order to have seasonal data, contractor reports may take a nearly a year to complete.

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Table 3

Butte Creek Acquisition and Restoration Program Budget

Center for Natural Lands Management

July 1997

	Direct Labor Hours	Direct Salary and Benefits	Overhead and Admin. Labor	Service Contracts	Material and Acquisition Contracts	Misc. and other Direct Costs	Total
a. Acquisition Program							
Task 1a. Priority Lands Acquisition							
1a. Land Owner Outreach	40	$1,720	$394			$70	$2,184
2a. Database Production	120	$5,160	$1,135				$6,295
Ownerships	48	$2,064	$469			$70	$2,603
Field Survey	320	$13,760	$3,577			$2,500	$19,837
Hydrology/ FluvialGeoMorphology	120	$5,160	$7,401	$125,000		$70	$137,631
Land Values	60	$2,580	$2,358	$8,000		$140	$13,078
GIS Production	140	$6,020	$4,386	$60,000		$280	$70,686
Task 3a. Acquisition Program Report	95	$4,085	$1,165	$4,000		$300	$9,550
Task 4a. Acquisition, Restoration, Permanent Stewardship	1600	$68,800	$75,136			$6,000,000	$6,143,936
b. Restoration and Maintenance Program							
Task 1b. Trial Restoration	146	$6,278	$16,014	$174,300	$24,100	$2,800	$223,492
Task 2b. Restoration Documentation	170	$7,310	$1,731			$560	$9,601
Task 3b. Restoration and Maintenance Program	220	$9,460	$2,134			$240	$11,834
c. Coordination							
Task 1&2c	180	$7,740	$1,949			$1,120	$10,809
Contingency (10%) *excluding restoration contract							$648,724
Total	3259	$140,137	$117,850	$371,300	$24,100	$6,008,150	$6,661,537

- Milestone 3: Completion of **Acquisition Program report**. This report will be in process for some months during the final months of the contractors work allowing MOU partners, stakeholders and CALFED review of draft documents. The document will be finalized by the 15th month.

- Milestone 5: With substantial agreement on the Acquisition Program, **specific advertising** of the Program will target realtors and priority landowners in Month 13.

- Milestone 6: **Completion of the Pilot Restoration Program (Keeney property)**. This will occur after restoration and at least a year of monitoring.

- Milestone 7: **Within three years** it is anticipated that all acquisition funds will be committed to purchases, and restoration and permanent stewardship will be ongoing activities.

C. THIRD PARTY IMPACTS

No significant third party impacts are anticipated as a result of this project. Although the counties of Butte, Sutter and Colusa together may potentially lose tax revenues in the amount of $8,000 to $10,000 a year from removing properties from the tax roles, avoided flood damage costs and increased recreation and quality of life values would exceed this tax loss. Third party beneficiaries include farmers who risk losing streamside croplands to flooding, others with investments threatened by floods downstream, fisheries users, and recreationists who enjoy wildlife throughout the Central Valley and Delta.

Several landowners along Butte Creek experienced major orchard and other crop losses during the winter of 1996-97 and were forced to replant at great expense. Insurance costs for such incidence are rising and FEMA is no longer the insurance agent of last resort in flood prone areas.

Property owners with downstream investments will also benefit from a reduction in flood risks due to this project. This project may play a role in the protecting investments in Sacramento and the Delta.

Downstream water purveyors will benefit from cleaner stream flows which reduce the cost of purification and plant maintenance. Fisheries users, both commercial and sport, will benefit from increased production of anadromous species.

Several projects on Butte Creek are planned which in combination with increased riverine edge habitat created by this project will greatly change the creek's condition. The Butte Creek Watershed Conservancy is creating a watershed plan and a preservation plan for the upper creek. The Nature Conservancy and others are working on improvements on the Butte and Sacramento Sloughs at the junction of Butte Creek and the Sacramento River and improvements to several dams are possible. This project links those projects to improve conditions for anadromous fish recovery the full length of Butte Creek.

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IV. APPLICATION QUALIFICATIONS

The Center and its staff are highly qualified to successfully implement this program. Founded in 1990 and incorporated as a section 501(c)(3) nonprofit tax exempt organization, the Center's main mission is to protect biological resources through long-term stewardship of mitigation and conservation lands. The Center currently manages approximately 41,000 acres of land throughout California from Arcata to San Diego. In January 1997, the Center entered into a Memorandum of Understanding with The Nature Conservancy to transition land management responsibilities at several Conservancy sites to the Center. To date, over 20,000 thousand acres of TNC lands have been transferred for management.

The Center has developed a unique software program and database, the Property Analysis Record (PAR), to accurately predict short- and long-term stewardship activities and costs, and to assist land managers in planning stewardship projects in perpetuity. The Center has presented the PAR seminar to hundreds of public agency and private parties throughout the United States. The Center also provides services developing and implementing Habitat Conservation Programs (HCPs), conservation banking programs, preparing habitat management plans and cost analysis reports. We participated in the beginning phases and continue to be involved in the Natural Communities Conservation Planning process in Southern California.

The Center will be responsible for overall program coordination and implementation. Expert sub-consultants will be contracted on a public bid basis to provide water quality, hydrology, appraisal and GIS production services. **Table 5** identifies the specific individual responsibilities to be filled by the program staff.

Table 5
Lower Butte Creek Acquisition and Restoration Program Staff Organization

Program Title	Org.	Individual	Responsibilities
Executive Officer	Center	Sherry Teresa	General program oversight and advising
Program Manager	Center	Elizabeth Patterson, AICP	Lead team in implementing project schedule and meeting deliverables in a timely manner. Administer sub-contracts.
Biological Manager	To be determined	To be determined	Coordinate with hydrologists and water quality contractors to develop biological, hydrological, and water quality weightings for determination of priority properties. Work with GIS coordinator to develop datasets and create maps, and Real Estate Manager to integrate their respective information in the analysis. Manage pilot restoration project. Assist in developing the Restoration Program report and conducting ongoing restoration projects and monitoring on purchased properties

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Program Title	Org.	Individual	Responsibilities
Real Estate Manager	Center	Brenda Pace	Collect land, land use, and ownership information for the lands inventory. Work with Biological Manager to integrate land information into the weighting system to determine priority lands. Coordinate with appraiser to establish a basis and range for appropriate land values, and with the GIS coordinator for real estate information and mapping. Market acquisition program to landowners; negotiate purchases and terms. Work with the attorneys and accounts to facilitate sales with special circumstances such as tax free trades and charitable donation trusts.
Appraiser	To be determined	To be determined	Prepare appraisals on priority properties. Coordinate with Project Manager and Real Estate Manager.
Hydrologist/ fluvial geo-morphologist	To be determined	To be determined	Conduct hydrology/fluvial geomorphology studies to help determine weightings for determination of priority properties.
GIS Specialist	To be determined	To be determined	Coordinate with Project manager and program team to document program information and prepare maps.
Water Quality Specialist	To be determined	To be determined	Conduct water quality studies to help determine weightings for determination of priority properties.
Restoration labor	California Conservation Corps	Walt Auburn	Provide the labor force and skills necessary for restoration work on both the pilot restoration project (Keeney property) and the priority lands to be acquired.
Notes: The Biological Manager and the Real Estate Manager shall jointly produce the Coordination MOU, Acquisition Program report and conduct ongoing coordination activities.			

B. CENTER'S STAFF BIOGRAPHIES

Sherry Teresa: Sherry Teresa formed the Center in 1990 and has 16 years experience in evaluating and protecting biological resources, including five years with the California Department of Fish Game. Ms. Teresa is skilled in the application of the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), Endangered Species Act (ESA), and the Clean Water Act Section 404 permit process. Her active involvement in regional conservation planning is demonstrated through participation in Habitat Conservation Plans (HCPs) and the Natural Communities Conservation Planning (NCCP) programs in southern California. Ms. Teresa was instrumental in developing the Center's PAR software and has performed dozens of PAR analyses on properties statewide. She has also written and worked extensively on habitat preservation for the Swainson's hawk. Ms. Teresa completed a Bachelor's degree in Zoology at Brigham Young University and a Master's degree in Biogeography and Ecosystems Analysis at UCLA. Her biological, regulatory, and project management experience make her well suited as Executive Officer of the ECOS Project.. The success of the Center and the wide use of the PAR software application demonstrate that she has the vision and the skills to see projects through from their inception to their successful implementation.

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Brenda C. Pace: Ms. Pace is a specialist in real estate, land economics, and finance. Prior to her affiliation with the Center, Ms. Pace operated Pace Research Company, a consulting firm established in 1976. Earlier associations were with development firms and banking institutions. Ms. Pace holds a Bachelor's degree from the University of Oregon and graduated with a Master's degree in Regional Economics from UCLA. Her work at the Center has concentrated on establishment of systems for reviewing and analyzing mitigation properties. This work includes developing computer programs that incorporate the variety of requirements and activities necessary to maintain biological resources. It also includes the mechanisms for converting the costs of restoration and long-term maintenance into figures useful for the establishment of special districts or endowments.

Elizabeth Patterson: Ms. Patterson AICP, has extensive experience in environmental and natural resources policy, regulations, planning and management. She served as program director for aquatic resources policy of the California State Lands Commission, has worked with several environmental organizations in various capacities, and has experience before and within the California State Legislature. Ms. Patterson served as staff for the Senate Subcommittee on River Protection and Restoration to develop a legislative program. Ms. Patterson has served as CEQA environmental officer and Environmental Specialist (IV) for CEQA/NEPA review. She has more than 15 years experience working with local, regional, state and federal agencies and non-governmental organizations.

References

Butte County: Don Holtgrieve, Butte Creek Watershed Conservancy, (916) 898-5780
Oland Zercle, The Nature Conservancy, (916) 449-2850

Kern County: Leslie Friedman Johnson, The Nature Conservancy, (415) 777-00487
Jim Brownell, California Energy Commission, (916) 654-4169.

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VI. Compliance with Standard Terms and Conditions

The Center will comply with standard terms and conditions associated with a CALFED grant award.

I-005646

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME
The Center for Natural Lands Management

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME
Sherry Teresa

DATE EXECUTED	EXECUTED IN THE COUNTY OF
July 23, 1997	Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE
Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME
Sherry Teresa

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EXHIBIT 1

The Center for Natural Lands Management
Description of the Property Analysis Records (PAR)

I-005648

The Property Analysis Record: Paying for Perpetuity

Every parcel preserved for the benefit of biological resources requires management involving some level of expense. If not planned in advance, management in perpetuity can escalate into a tremendous capital requirement. The ideal, of course, is to establish a funding source that provides enough income to cover annual stewardship costs and includes a buffer to offset inflation.

How Much Money Is Enough?

The basic yardstick for deciding how much is needed is the average annual cost of management. Unfortunately, there is no easy answer for determining this, and managers around the country are struggling to develop formulas for calculating these costs. The costs vary widely with the nature of the land, the type of protection (owned or under easement), the purpose of conservation (endangered species, visitor services, education), and further varies year by year.

The Property Analysis Record

The Center for Natural Lands Management has developed a new tool, the Property Analysis Record (PAR). The PAR is a computerized database methodology that is extremely effective in helping land managers calculate the costs of land management for a specific project. The PAR helps analyze the characteristics and needs of the property from which management requirements are derived. It helps pinpoint management tasks and estimates their costs as well as the necessary administrative costs to provide the full cost of managing any property. The PAR generates a concise report which serves as a well-substantiated basis for long-term funding including endowments, special district fees, and other sources.

PAR Seminars

The Center presents the Property Analysis Record (PAR) methodology to land trusts, governmental agencies, environmental consultants, project proponents, and other interested parties throughout the state of California through the seminar, "Planning Sustainable Conservation Projects." PAR software and a user's manual are provided to participants, and software is upgraded as new versions are introduced.

The PAR Seminar enables participants to:

- Understand the need for long term stewardship;
- Readily determine and justify the long-term activities and financial requirements of a conservation project;
- Develop biologically and economically sustainable projects;
- Identify a complete array of management responsibilities;
- Provide an understanding of the financial components and financing mechanisms for stewardship;
- Provide an accurate tool to standardize management and costing methodologies;
- Increase communication and partnerships to produce cost-effective conservation projects.